Pellaea breweri D.C. Eat.

Brewer's cliffbrake
Polypodiaceae (Common Fern Family)

Status: State Sensitive
Rank: G5S2

General Description: Adapted from Hitchcock et. al. (1969): This fern arises from a short and much branched rhizome that forms a massive many headed persistent base. This base is covered with thin, membranous, dry scales. The petioles are ½ to 3½ inches (1.5-9 cm) long, smooth (or with a few long hairs) and shining, brittle, and chestnut to dark reddish-brown in color, becoming darker and duller with age. The petioles are marked with a series of transverse grooves at least below the middle, and eventually break off at one of the grooves. The basal part is persistent for a number of years so that the old petiole-bases are much more numerous than the green leaves. The blades are 1 to 4¾ inch (2.5-12 cm) long and ½ to 2 inches (1.5-5.3 cm) wide with 5-11 opposite or offset pairs of deeply lobed leaflets attached directly to the petiole. All or many of the middle and lower ones are deeply lobed, often unequally, and are mostly 1/4 to ¾ inch (5-20 mm) long and 1/8 to ½ inch (3-12 mm) wide, more or less ovate or elliptic, often asymmetrical, and more or less obliquely set so that the leaf does not easily flatten into a single plane. The rachis is brown and shining like the petiole for most of its length, and green or greenish at the tip.

Identification Tips: *Pellaea breweri* resembles *P. glabella* more than any other member of the genus. They both have very deeply lobed leaflets that roll back toward the underside, covering the sori (spores). However, the petiole bases of *P. breweri* are persistent and more numerous than the green leaves, while the petiole bases of *P. glabella* are relatively few and not more numerous than the green leaves. Both species have opposite or offset pinnae, but *P. breweri* has 5-11 pairs that are connected directly to the petiole, and *P. glabella* has 3-10 pairs that are borne on stalks that are up to 1 cm long. A technical key is needed for identification.

Phenology: This species is identifiable throughout the year.

Range: This species occurs from the foothills to about timberline of the mountains, from Washington to southern California, east to southwest Montana, and south to Wyoming, Colorado and Utah. In Washington *Pellaea breweri* can be found in the Wenatchee National Forest in Kittitas and Chelan counties, and the Olympic National Forest in Jefferson, and Clallam counties.

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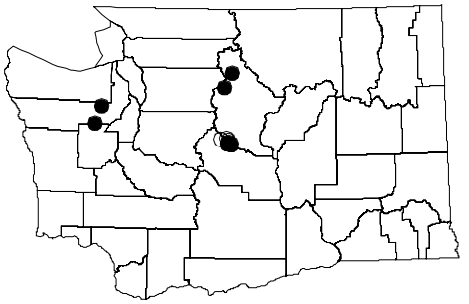
Known distribution of *Pellaea breweri* in Washington



● Current (1980+)
○ Historic (older than 1980)

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Habitat: This species is found in open, rocky alpine areas from 4700 to 6700 feet (1432-2042 meters) elevation. Associated species at one or more sites include Brandegee's desert parsley (*Lomatium brandegei*), Columbian lewisia (*Lewisia columbiana*), bedstraw (*Gallium* sp.), alumroot (*Heuchera* sp.), polypody (*Polypodium* sp.), spreading phlox (*Phlox diffusa*), cliff beardtongue (*Penstemon rupicola*), sagebrush (*Artemisia* sp.), and Leiberg's fleabane (*Erigeron leibergii*).

Ecology: This xeromorphic species can be found in south and or west facing crevices, rocky basaltic or granite slides and also alpine ledges and glacial cirques.

State Status Comments: There are ten known occurrences of this species in Washington. In 1969 Hitchcock stated that west of the Cascades, the genus *Pellaea* is so seldom in number that, "their existence in any area will be threatened even by judicious collecting."

Inventory Needs: Much potential habitat is inaccessible and has not been surveyed. Known sites should be revisited, and occurrence records need to be updated.

Threats and Management Concerns: Definite threats have not been identified for this species.

Comments: While Hitchcock et al. (1969) place the genus *Pellaea* into the Polypodiaceae family, other authors have fragmented the Polypodiaceae into smaller families, placing the genus *Pellaea* within the Pteridaceae (Maidenhair fern family).

References:

Hitchcock, C.L., A. Cronquist, M. Ownbey, J.W. Thompson. 1969. *Vascular Plants of the Pacific Northwest* Part1: *Vascular Cryptogams, Gymnosperms, and Monocotyledons.* University of Washington Press, Seattle, WA. 914pp.

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